

## WHAT IS CLAIMED IS:

1. A substrate having a pixel electrode, comprising:
  - a substrate;
  - a plurality of pixel units, each pixel unit including a pixel electrode useable as a reflective electrode and a switching element electrically connected to said pixel electrode, said pixel units being arranged in a matrix pattern on the substrate, the switching element having a terminal electrode forming a conductive layer, connecting wiring provided between the pixel electrode and the conductive layer that electrically connects said pixel electrode and said terminal electrode;
  - a light-shielding layer having an opening surrounding a portion in which said connecting wiring is formed and having no opening in regions between adjacent pixel electrodes, said light-shielding layer being formed between said pixel electrode and said conductive layer; and
  - an underlying insulating layer being formed below the pixel electrodes, and in regions between adjacent pixel electrodes of the plurality of pixel units, a groove having substantial V-shaped surface relative to an upper surface of the underlying insulating layer being formed in regions between pixel electrodes on a surface of the underlying insulating layer or on a surface of said light-shielding layer under said underlying insulating layer for reflecting obliquely the light vertically incident which enters a space between the pixel electrodes.
2. The substrate having a pixel electrode as set forth in claim 1, wherein an anti-reflection film is provide between said pixel electrode and said light-shielding layer.
3. The substrate having a pixel electrode as set forth in claim 2, wherein said anti-reflection film has substantially the same shape as that of said pixel electrode and is provided below said pixel electrode.

4. The substrate having a pixel electrode as set forth in claim 2, wherein said anti-reflection film comprises titanium nitride.

5. The substrate having a pixel electrode as set forth in claim 4, wherein the film thickness of said titanium nitride is 500 to 1000 angstroms.

6. The substrate having a pixel electrode as set forth in claim 1, said anti-reflection film having substantially the same shape as that of said pixel electrode, and being provided below said pixel electrode.

7. The substrate having a pixel electrode as set forth in claim 6, wherein said anti-reflection film comprises titanium nitride.

8. The substrate having a pixel electrode as set forth in claim 7, wherein the film thickness of said titanium nitride is 500 to 1000 angstroms.

9. The substrate having a pixel electrode as set forth in claim 1, wherein said contact hold is provided at a substantially central position of the plane of said pixel electrode.

10. A substrate having a pixel electrode, comprising:  
a substrate;  
a plurality of pixel units, each pixel unit including a pixel electrode useable as a reflective electrode and a switching element electrically connected to said pixel electrode, said pixel units being arranged in a matrix pattern on the substrate, the switching element having a terminal electrode forming a conductive layer, connecting wiring provided between the pixel electrode and the conductive layer that electrically connects said pixel electrode and said terminal electrode;

a light-shielding layer having an opening surrounding a portion in which said connecting wiring is formed and having no opening in regions between adjacent pixel electrodes, said light-shielding layer being formed between said pixel electrode and said conductive layer; and

an underlying insulating layer being formed below the pixel electrodes, and in regions between adjacent pixel electrodes of the plurality of pixel units, a groove defined by a pair of sloping surfaces relative to an upper surface of the underlying insulating layer being formed in regions between pixel electrodes on a surface of the underlying insulating layer or on a surface of said light-shielding layer under said underlying insulating layer, the pair of sloping surfaces of the groove being opposed to each other for reflecting obliquely the light vertically incident which enters a space between the pixel electrodes.

11. A substrate having a pixel electrode, comprising:

a substrate;

a plurality of pixel units, each pixel unit including a pixel electrode useable as a reflective electrode and a switching element electrically connected to said pixel electrode, said pixel units being arranged in a matrix pattern on the substrate, the switching element having a terminal electrode forming a conductive layer, connecting wiring provided between the pixel electrode and the conductive layer that electrically connects said pixel electrode and said terminal electrode;

a light-shielding layer having an opening surrounding a portion in which said connecting wiring is formed and having no opening in regions between adjacent pixel electrodes, said light-shielding layer being formed between said pixel electrode and said conductive layer; and

an underlying insulating layer being formed below the pixel electrodes, and in regions between adjacent pixel electrodes of the plurality of pixel units, a groove defined by a pair of sloping surfaces relative to an upper surface of the underlying insulating layer being formed in regions between pixel electrodes on a surface of the underlying insulating layer or on a surface of said light-shielding layer under said underlying insulating layer, the groove

having no flat surface on bottom for reflecting obliquely the light vertically incident which enters a space between the pixel electrodes.